

FIG. 2A

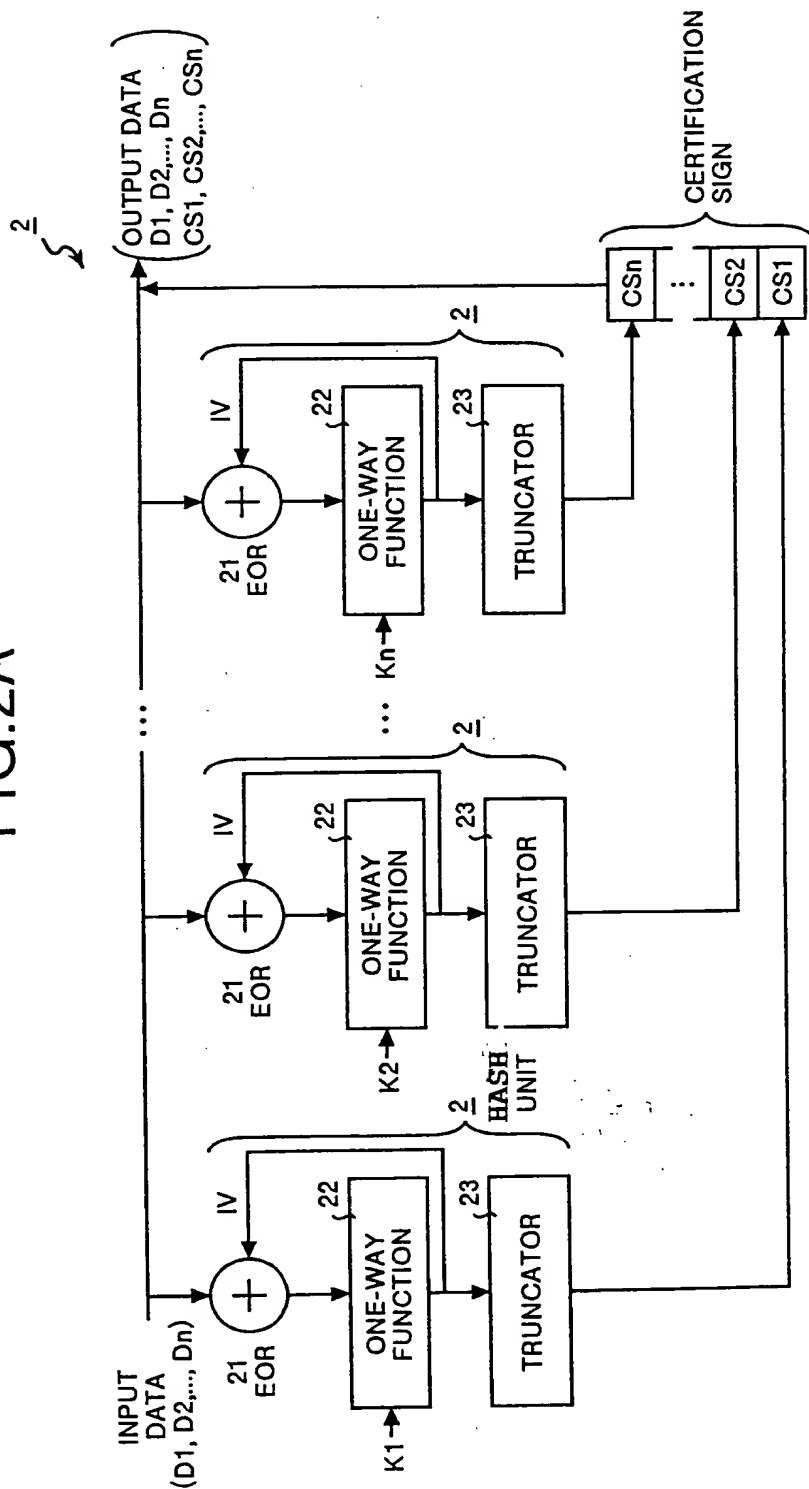


FIG. 2B

(b-1)CS1-GENERATING PROCESS

①→IV=PUBLIC CONSTANT

$$\textcircled{2} \rightarrow \text{EK1}[V(+)\text{D1}]=\text{L11}$$

③→EK1[L11(+D2)]=L12

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-
-
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$$\textcircled{4} \rightarrow EK1[L1(n-1)(+Dn)] = L1n$$

⑤ $\rightarrow \text{Tr}[\mathbf{1} \eta] = \text{CS}$

(b-2)CS2-GENERATING PROCESS

IV=PUBLIC CONSTANT

EK2[IV(+D1)]=L21

EK2[L21(+D2)]=L22

$$\vdots$$
$$EK2[L2(n-1)(+Dn)]=L2n$$
$$\text{Tr}[L_{2n}] = \text{CS}^2$$

(b-3)CS3-GENERATING PROCESS

IV=PUBLIC CONSTANT

EK3[IV(+D1)]=L31

E_{K3}[L₃₁(+)D₂]=L₃₂

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$$EK3[L3(n-1)(+)Dn]=L3n$$
$$\text{Tr}[L3n] = \text{CS3}$$


FIG.3A

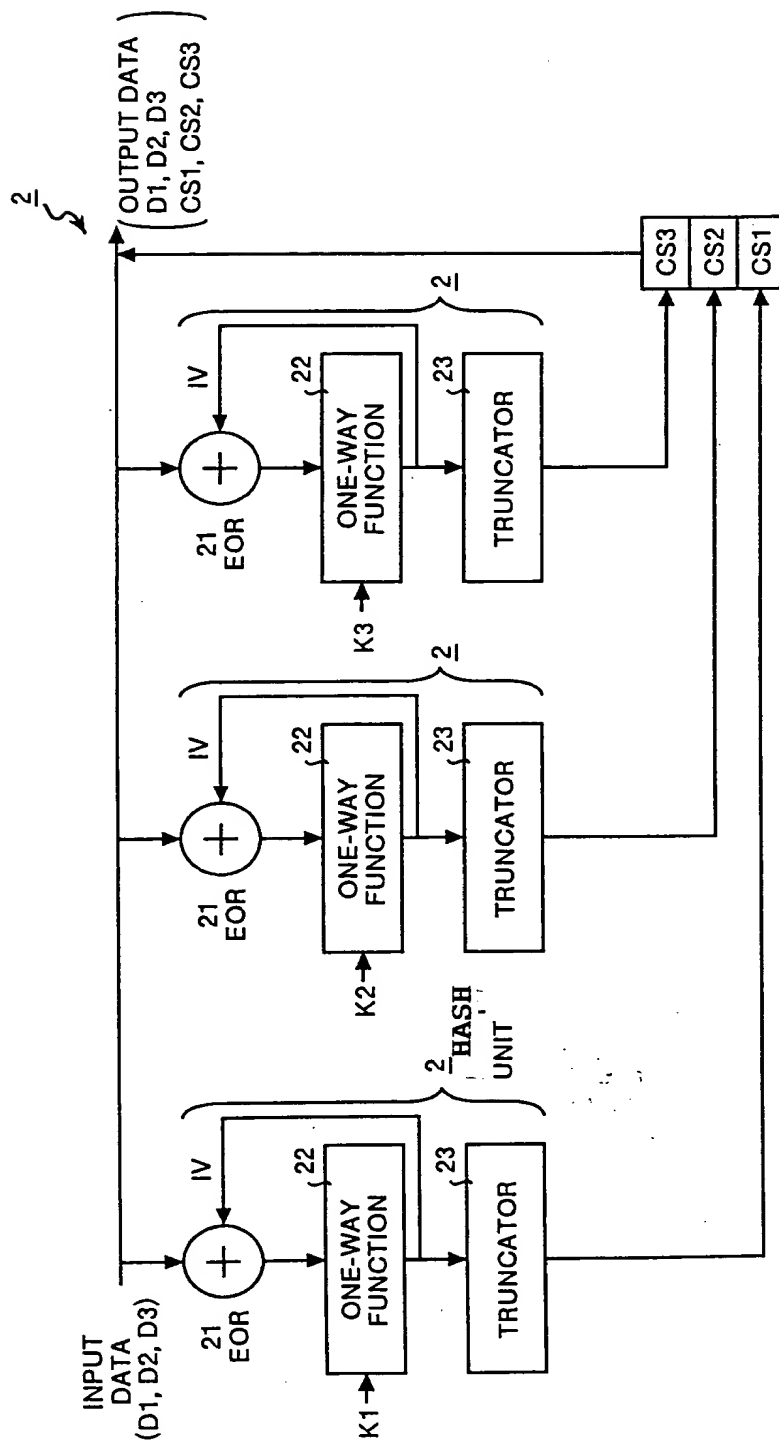


FIG.3B

(b-1)CS1-GENERATING PROCESS
 ① $\rightarrow IV = \text{PUBLIC CONSTANT}$
 ② $\rightarrow EK1[IV(+D1)] = L11$
 ③ $\rightarrow EK1[L11(+D2)] = L12$
 ④ $\rightarrow EK1[L12(+D3)] = L13$
 ⑤ $\rightarrow Tr[L13] = CS1$

(b-2)CS2-GENERATING PROCESS
 IV = PUBLIC CONSTANT
 $EK2[IV(+D1)] = L21$
 $EK2[L21(+D2)] = L22$
 $EK2[L22(+D3)] = L23$
 $Tr[L23] = CS2$

(b-3)CS3-GENERATING PROCESS
 IV = PUBLIC CONSTANT
 $EK3[IV(+D1)] = L31$
 $EK3[L31(+D2)] = L32$
 $EK3[L32(+D3)] = L33$
 $Tr[L33] = CS3$